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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,792	01/22/2004	Pilar De Frutos Escrig	10,391	5399

7590

03/17/2005

John C. McMahon
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EXAMINER

WITHERSPOON, SIKARL A

ART UNIT

PAPER NUMBER

1621

DATE MAILED: 03/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/762,792	DE FRUTOS ESCRIG ET AL.	
	Examiner	Art Unit	
	Sikarl A. Witherspoon	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5,6 and 10-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,6 and 10-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The examiner has considered applicants' amendment filed December 21, 2004. In light of said amendment, the examiner has withdrawn the rejections of record. The following *new* rejections have been made.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 6, and 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsui et al (US 6,291,718).

The instant claims are drawn to a process for preparing a hydroperoxide from a hydrocarbon selected from primary and secondary hydrocarbons, by conducting oxidation of said hydrocarbon with an oxygen-containing gas in a reaction mixture comprising said hydrocarbon and a catalyst comprising a cyclic imide compound and an alkaline earth metal compound. Further limitations include the imide compound being a compound of formula (1), the alkaline metal being selected from lithium, sodium, potassium, and cesium, the amount of said cyclic amide being in a range of from 0.0001 to 1 percent, and 0.000005 to 0.01 percent, and the hydrocarbon being ethylbenzene.

Matsui et al teach a process for preparing hydroperoxides by oxidizing a hydrocarbon with a gas containing oxygen in the presence of a compound that can

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capture radicals, i.e., and imide compound, and a basic compound. Examples of the starting hydrocarbon include paraffins having a secondary carbon, such as pentene, and isobutene, and arylalkyl hydrocarbons such as cumene, cymene, and ethylbenzene (col. 1, line 65 to col. 2, line 38). Cyclic imide compounds include compounds of formula (III), such as N-hydroxyphthalimide (col. 6, lines 35-40, and Example 1). The usage of the compound that can capture radicals, i.e., the imide compound, is normally in the range of 0.00001 to 5 parts by weight. The reaction is conducted in the presence of a basic compound, such as sodium carbonate, sodium hydroxide, potassium hydroxide, potassium carbonate, and sodium hydrogencarbonate (col. 21, lines 22-41).

The difference between the Matsui et al and the present invention is that the present invention requires the hydrocarbon starting material to be a primary or secondary hydrocarbon (or mixture thereof), while all of the examples in Matsui et al use a tertiary hydrocarbon, such as cumene or cymene. However, Matsui et al clearly teach the starting hydrocarbon can be a secondary hydrocarbon, such as pentene or isobutene, or an arylalkyl hydrocarbon, such as ethylbenzene (which contains a secondary carbon).

It therefore would have been obvious to a person of ordinary skill in the art, at the time the present invention was made, to substitute the tertiary hydrocarbon starting material for a secondary hydrocarbon starting material, in the process taught by Matsui et al, since Matsui et al teach that the corresponding hydroperoxide compound will be produced from starting material hydrocarbons that include secondary hydrocarbons,

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arylalkyl hydrocarbons, such as ethylbenzene, olefins, cycloparaffins, etc., using the process described in the patent.

Claim Objections

Applicant is advised that should claims 10 and 12 be found allowable, claim 12 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Applicant is advised that should claims 13 and 14 be found allowable, claim 14 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim 11 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 11 recites an amount of cyclic amide in the reaction mixture from 0.000005 to 0.01 percent by weight.

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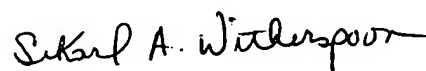
The amount of 0.000005 is a smaller amount than the 0.001 percent starting point in the preceding claim; thus, claim 11 does not *further limit* the preceding claim.

Claim 15 is objected to because of the following informalities: the word at the end of the claim appears to be misspelled. Appropriate correction is required.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikarl A. Witherspoon whose telephone number is 571-272-0649. The examiner can normally be reached on M-F 8:30-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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